REMARKS

Applicants have carefully considered the January 2, 2009 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1-9 are pending in this application. Claim 8 has been withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b).

In response to the Office Action dated January 2, 2009, no claims have been amended. Entry of the present response is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Claims 1-7 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Izumida et al. (U.S. Pat. App. Pub. No. 2004/0099354, hereinafter "Izumida"). Applicants traverse.

The Examiner asserts that the steel wires of Izumida and the present application would be expected to have the same volume percents of martensite phase and austenite phase and the same x-ray diffraction intensity ratios, because these steel wires are substantially identical in structure or composition and produced by substantially identical processes.

Contrary to the Examiner's assertion, the steel wire of Izumida is produced by a process in which a reduction in area is completely different from that of the present application. Specifically, while the claimed steel wire is produced with a reduction in area of 70% or more (paragraph [0024] of the present application as published), the steel wire of Izumida is produced with a reduction in area at 70% or less, more desirably at 55% to 65%. See paragraph [0029] of Izumida.

Due to this difference in the reduction in area between two steel wires, the steel wire of the present application has a texture satisfying both I(200)I(111) $\geq$ 2.0 and I(220)/I(111) $\geq$ 3.0 while the steel wire of Izumida does not have a texture satisfying both I(200)I(111) $\geq$ 2.0 and I(220)/I(111) $\geq$ 3.0 (paragraphs [0024], [0064] and Table 3 of the present application as published).

Based on the above, it should be evident that the present application discloses a totally different steel wire with a completely different texture as compared to the steel wire of Izumida.

The Examiner indicates that even though the steel wire is limited and defined by the process, the claimed steel wire and the steel wire of Izumida appear to have only slight differences when comparing products per se on which determination of patentability is based. See bridging paragraph at pages 2-3 of the Office action. Applicants traverse the Examiner's determination.

As explained above, the claimed steel wire and the steel wire of Izumida are completely different in their respective textures. Consequently, the steel wire of Izumida, which does not have a texture satisfying both I(200)I(111) $\geq$ 2.0 and I(220)/I(111) $\geq$ 3.0, lacks such excellent fatigue characteristic (high fatigue limit) as the claimed steel wire demonstrates. As evidence, the Examiner's attention is directed to Table 3 at paragraph [0064] of the present application as published.

It should be apparent upon looking at the composition of the samples in Table 3 (type of steel: a, See Table 1), that while the amount of N (0.17 mass%) does not fall in the claimed range of Izumida, the amounts of all the other elements fall within the claimed range of Izumida.

Of these samples, sample No. 12 having the reduction in area of 70% or more and sample No. 13 having the reduction in area of less than 70% are compared.

Sample No. 12 has a texture satisfying both I(200)I(111) $\geq$ 2.0 and I(220)/I(111) $\geq$ 3.0 (corresponding to the present claimed steel wire) and its fatigue limit is 500MPa. On the other hand, sample No. 13 does not have a texture satisfying both I(200)I(111) $\geq$ 2.0 and I(220)/I(111) $\geq$ 3.0 and its fatigue limit is 390MPa. These two steel wires, which differ greatly in the fatigue limit, cannot be considered "only slightly different" from each other.

The Examiner considers that these two steel wires are "only slightly different" even when the difference in the fatigue limit between them is about 100MPa. However, a difference of only 20MPa in the fatigue limit would greatly increase an industrial utility, because higher the fatigue limit, greater the range of available stress. Commonly, an industrial spring is used with a stress which has been calculated by subtracting a safety factor from a fatigue limit of a spring material (steel wire). If the fatigue limit is high, maximum available stress can be large even after the safety factor is subtracted; hence, the steel wire will be applied for a use in which heavy stress is imposed on it. Therefore, it cannot be reasonable stated that the two steel wires are only slightly different, when in actuality, the difference in fatigue limit between them is 20MPa or greater, particularly 50MPa or greater, or even around 100MPa.

In summary, Izumida does not teach or remotely suggest performing a hard drawing with a total reduction in area of 70% or more on austenitic stainless in a process of producing a steel wire in such a way that the wire has a specific orientation in order to enhance fatigue resistance (fatigue limit). In fact, Izumida clearly mentions that it is desirable to set a reduction in area at 70% or less, particularly at 55% to 65% when enhancing a high-temperature sag resistance by controlling a maximum crystal-grain diameter at less than 12 μm in the y phase. See paragraph [0029] of Izumida). Also, Izumida does not show examples other than those which are obtained at a reduction in area of about 60% in Test Examples.

These teachings of Izumida clearly teach away from performing a drawing with a total reduction in area of 70% or more on austenitic stainless. Thus, Izumida's teachings do not make it obvious to set the reduction in area at 70% since the reference clearly teaches away from controlling the reduction in area at 70% or more.

Moreover, as described in paragraph [0005] of the present application as published, it is recognized that toughness of a stainless steel wire is degraded if the wire is subjected to a drawing with great reduction in area. From this aspect, it is not easily conceivable to subject the austenitic stainless steel wire of Izumida to the drawing with a reduction in area of 70% or more.

Furthermore, the fatigue limit, an index of enhancement of fatigue resistance in the present application, and a residual sharing strain, an index of enhancement of the high-temperature sag resistance in Izumida, are totally different characteristics and no relationship exists between them. That is, even if the steel wire disclosed in Izumida has a small residual sharing strain and superior high-temperature sag resistance, it does not mean the steel wire has superior fatigue limit.

It summary, it has been explained above that the reduction in area needs to be 70% or less, more preferably 55% to 65%, to decrease the residual share strain as described in Izumida, while the reduction in area needs to be 70% or more to increase the fatigue limit as described in the present application. Thus, it has never been obvious to limit the reduction in area at 70% or more in order to obtain a steel wire having a characteristic that is not correlated with the residual sharing strain, namely, a high fatigue limit, based on Izumida, which teaches controlling the reduction in area at about 60% in order to obtain a steel wire having a small residual sharing strain. Accordingly, it is hardly possible to obtain the steel wire having a texture satisfying both $I(200)I(111) \geq 2.0$ and $I(220)/I(111) \geq 3.0$ with reference to Izumida that does not define the

reduction in area of 70% or more and, as such, the patentability of the present claimed steel wire can not be denied based upon the disclosure of Izumida.

The steel wire of Izumida is produced by a completely different production method and it does not have a texture satisfying the specified orientation of the present claimed subject matter. Each and every limitation must be disclosed or suggested by the cited prior art references in order to establish a *prima facie* case of obviousness (*see*, M.P.E.P. § 2143.03) and for at least the foregoing reasons the Examiner's applied reference fails to do so, it is respectfully submitted that the rejection is not legally viable for at least this reason and should be withdrawn for at least the foregoing reasons. Further, if any independent claim is non-obvious under 35 U.S.C. § 103(a), then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Double Patenting Rejection

Claims 1-7 and 9 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 6 of Izumida. As acknowledged by the Examiner, U.S. Pat. App. Pub. No. 2004/0099354 issued as U.S. Pat. No. 7,404,865. Applicants traverse the rejection.

In response, Applicants note that a double patenting rejection of the obviousness-type is nearly analogous to the nonobviousness requirement of 35 U.S.C. § 103. See *In re Braithwaite*, 379 F.2d 594, 154 U.S.P.Q. 29 (CCPA 1967). Moreover, any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. § 103 obviousness determination. See *In re Braat*, 937 F.2d 589, 19 U.S.P.Q.2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 U.S.P.Q. 645 (Fed. Cir. 1985). The factual inquiries

outlined in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103, should be employed when making an obvious-type double patenting analysis. Therefore, Applicants respectfully traverse the obvious-type double patenting rejection for substantially the same reasons set forth above in response to the 35 U.S.C. § 103(a) rejection.

Moreover, the steel wire of Izumida has been obtained with reduction in area at 60% and does not have a texture satisfying both $I(200)I(111) \geq 2.0$ and $I(220)/I(111) \geq 3.0$. Since the texture of the steel wire of Izumida does not satisfy both $I(200)I(111) \geq 2.0$ and $I(220)/I(111) \geq 3.0$, the steel wire does not have fatigue limit as high as that of the steel wire of the present application. Furthermore, as already discussed, Izumida has a description that teaches away from controlling the reduction in area at 70% or more in the first place, thus, it has not been obvious, even based on Izumida, to set the reduction in area at 70% or more.

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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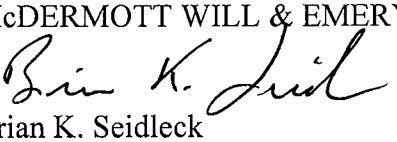

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